

WAAS Technical Report
William J. Hughes Technical Center
Atlantic City International Airport, NJ
March 21, 2014

Author(s): Tom McHugh

DR#120: PRN25 Illegal IODE IODC

GPS Week/Day: Week 1784 Day53 (3/21/2014)

Discussion:

PRN-25 transitioned to a new navigation data set, but did not update the IODE or IODC, however the seconds of TOC and TOE indicate a data set cutover.

Identical navigation data from WAAS YQX1, YQX2, YQX3, YYR1, YYR2, YYR3. New data repeated. Extremely unlikely it is a failed parity issue.

Clock terms are identical and TOC only varied by 16 seconds.

RINEX comparison of the navigation data:

```
25 14 3 20 21 59 44.0 0.192229636014D-04 0.136424205266D-11 0.000000000000D+00
0.200000000000D+01-0.708750000000D+02 0.395516474849D-08 0.209164775931D+01
-0.367313623428D-05 0.334430194926D-02 0.108517706394D-04 0.515364757729D+04
0.424784000000D+06-0.819563865662D-07-0.254663216842D+01 0.000000000000D+00
0.975913072000D+00 0.178718750000D+03 0.620774404671D+00-0.776960934970D-08
-0.335728270144D-10 0.100000000000D+01 0.178400000000D+04 0.000000000000D+00
0.240000000000D+01 0.000000000000D+00 0.558793544769D-08 0.200000000000D+01
0.423156000000D+06 0.400000000000D+01 0.000000000000D+00 0.000000000000D+00
TOT = 423156 = 21:32:36 (rinex tool uses subframe 1 TOW for TOT)

25 14 3 20 21 59 28.0 0.192229636014D-04 0.136424205266D-11 0.000000000000D+00
0.200000000000D+01-0.708750000000D+02 0.395516474849D-08 0.208931389002D+01
-0.367313623428D-05 0.334430183284D-02 0.108517706394D-04 0.515364757538D+04
0.424768000000D+06-0.819563865662D-07-0.254663204700D+01 0.000000000000D+00
0.975913074925D+00 0.178718750000D+03 0.620774520242D+00-0.776960934970D-08
-0.335728270144D-10 0.100000000000D+01 0.178400000000D+04 0.000000000000D+00
0.240000000000D+01 0.000000000000D+00 0.558793544769D-08 0.200000000000D+01
0.423186000000D+06 0.400000000000D+01 0.000000000000D+00 0.000000000000D+00
TOT = 423186 = 21:33:06 (rinex tool uses subframe 1 TOW for TOT)
```

Position and clock differences 3/20/14 21:30 to 3/21/14 01:30

3/20/14 PRN-25 Illegal Nav Data Update (Old and New IODE & IODC == 2)
Delta X (old - new)

